

memorandum

DATE: December 23, 1997

REPLY TO
ATTN OF: Office of Environmental Policy and Assistance(EH-413):Boulos:6-1306

SUBJECT: GUIDANCE ON TESTING REQUIREMENTS FOR MIXED (Radioactive and Hazardous) WASTE

TO: Distribution

PURPOSE To inform DOE elements of the availability of the joint Nuclear Regulatory Commission (NRC) and Environmental Protection Agency (EPA) Guidance on the Testing Requirements for Mixed Waste.

BACKGROUND The joint guidance was developed to eliminate unnecessary or redundant waste testing and reduce occupational radiation exposure to individuals conducting waste analyses. NRC and EPA began its development in 1987 and completed a draft document in 1989. Promulgation of the Toxicity Characteristic Leaching Procedure (TCLP) regulations in 1990 required the agencies to substantially revise the guidance. A draft was released for public comment on March 26, 1992, and the final guidance was published in the Federal Register on November 20, 1997 ([62 FR 62079](#)) which reflects comments received. Although it is written for commercial mixed waste generators, EPA/NRC state that "the guidance may also be useful for Federal facilities that generate mixed waste."

CONTENTS OF GUIDANCE The focus of the guidance is on RCRA Subtitle C compliance in characterizing the hazardous component(s) of mixed low-level radioactive waste (LLW). Additional information on the testing of hazardous wastes, which could apply to mixed LLW as well as other types of mixed waste (e.g., high-level and transuranic mixed waste) is included in Appendix A.

The guidance stresses the value of *waste knowledge* in making hazardous waste determinations and the *flexibility* allowed in testing mixed wastes in order to minimize radiation hazards. Waste knowledge is defined very broadly to include process knowledge, records of analyses performed prior to the effective date of RCRA regulations, or a combination of the above. Waste knowledge alone may be adequate to characterize hazardous waste, including mixed waste. The guidance indicates that waste knowledge may be the most appropriate method for characterizing mixed waste streams when radiation exposure is of concern. The guidance also reinforces that flexibility exists in the RCRA regulations to tailor mixed waste sampling and analysis plans to address radiation hazards and safeguard workers. The hazardous waste regulations cite only 14 situations mandating the use of specific test methods as found in SW-846 (Test Methods for Evaluating Solid Waste), and variances can be requested that would replace those required methods with an equivalent testing or analytical method.

Additionally, the guidance offers two strategies for helping to maintain radiation exposures As Low As is Reasonably Achievable (ALARA) if testing is required:

- H use of a sample size of less than 100 grams, as long as the resulting test is sufficiently sensitive to measure the constituents of interest at the regulatory levels prescribed in the TCLP; and
- H use of surrogate materials, as long as they are chemically identical to the mixed waste and faithfully represent the hazardous constituents in the waste mixture.

The guidance also discusses other allowable sampling and testing procedures, such as representative drum sampling, or sampling from drums that contain lower concentrations of radioactive material, provided the chemical contents are identical to those found in the drums with higher concentrations of radioactive material.

**ACCESS
TO
GUIDANCE**

The *Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste* is available for viewing/downloading on the Internet via the EPA Mixed Waste Team Homepage at:
http://www.epa.gov/radiation/mixed-waste/mw_pg14.htm#testing

CONTACT

Questions concerning the guidance, may be directed to Emile Boulos of my staff by...

- . calling (202) 586-1306
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